SUSTAINABLE ENERGY STRATEGIES IN BARCELONA

The sustainable energy measures in the Forum 2004 area

Introduction

This presentation starts with a short overview of the sustainable energy strategies in the city of Barcelona, and continues with the example of urban renewal in the Forum Barcelona 2004 area, which integrates various significant energy measures.

The development of sustainable energy strategies is clearly a priority in the City of Barcelona. Although they are fully interconnected, we could divide them in the following groups:

Sustainable energy strategies in Barcelona

- **PROMOTION POLICIES**
- **DEMONSTRATION PROJECTS**
- **LEGAL INSTRUMENTS**
- **MANAGEMENT INSTRUMENTS**
- **INTEGRATION OF SUSTAINABLE ENERGY MESURES IN URBAN DEVELOPMENTS**

For each of these categories there are already count examples that have shown that proactive policies in cities can substantially increase the share of Renewable Energy Sources (RES).

The strategies named **PROMOTION POLICIES** and **DEMONSTRATION PROJECTS** have been present in the city since years, with different examples such as: The installation of solar systems in schools, sports centres (solar thermal installation in the Olympics Swimming Pool) or in some other public buildings (solar FV installation in the Town Hall).

Concerning the **LEGAL INSTRUMENTS,** Barcelona is very proud to be the first European city to have a **Solar thermal ordinance**

According to this bylaw all new buildings and buildings undergoing major refurbishment are obligated to use solar energy to supply 60% of their running hot water requirements. This solar ordinance was approved by the Barcelona City Council in July 1999 and entered into force in August 2000.

This new policy has brought Barcelona to multiply per 10 the surface of solar thermal square metres (licenses requested), moving from 1,1 m2 /1.000 inhabitants (in 2000) to 10,6 m2/1.000 inhabitants [as of 2003, the licenses requested for the installation of solar panels made up a total of: 14.028 m2 of solar panels (before: 1650 m2)].

These results are very encouraging and it is of very importance to see that more than 20 Spanish cities are now “replicating” this initiative taking Barcelona as a model.

The **Barcelona Energy Improvement Plan** (PMEB), a 10 year plan adopted in 2002, and the **Barcelona Energy Agency**, are two major **MANAGEMENT INSTRUMENTS** that demonstrate the commitment of the City to further promote these energy measures in a planned and structured manner.

The municipal action in promoting an sustainable energy city also works towards the **INTEGRATION OF SUSTAINABLE ENERGY MESURES IN URBAN DEVELOPMENTS**, an example of this integration are the sustainable energy measures in the Forum Barcelona 2004 area.

Integration of Sustainable Energy Measures in the Forum 2004 area

Background

A major urban development and infrastructure plan is being developed on the coast at Besòs (Barcelona and Sant Adrià del Besòs) in the district of Poble Nou, Barcelona, which will bring out a significant reorganization of the area. The "Universal Forum of Cultures – Barcelona 2004" is due to take place on the Besòs coast between 9 May and 26 September 2004. The Barcelona Forum 2004 will be an unprecedented event with over 5 million visitors expected, which will try to promote a spirit of coexistence and cooperation between all sectors of society and promote a model of a sustainable city, which administers its natural resources optimally. The Forum is co-organized by the Barcelona City Council, the Catalan autonomous Government and the Spanish Government, with UNESCO as the main partner.

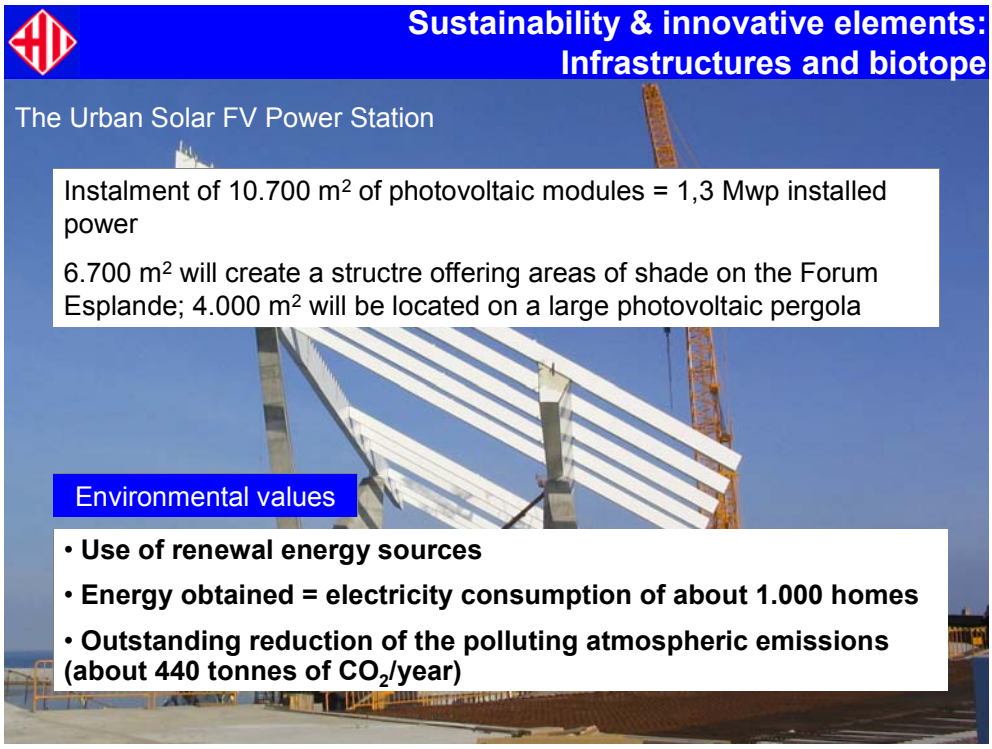
The urban renovation and reconstruction of this territory has been seen as an excellent opportunity for application of the principles of sustainable development. Converting an industrial and marginal area in a new central area of services and leisure, integrating the environmental infrastructures in the city has been one of the main objectives. Other goals achieved have been:

- Creation of a new central area in the metropolitan region
- Improvement of the environmental quality of this urban space
- Gain of urban public space in a very dense city
- Completion of Barcelona's coastline recovery
- Integration of large environmental infrastructures with the reduction of environmental impacts
- Improvement of accessibility by public transport to the area: metro and tramway

Within this urban renewal, a special emphasis has been put on the issue of the energy cycle. A substantial effort has focused on the promotion of measures for the efficient use of energy, the introduction of Renewable Energies (RES) and the reduction of the impact on the environment caused by the use of energy.

The major Sustainable Energy measures in the Forum 2004 area are the following: Urban solar FV power station (10700 m^2), District heating & cooling system, and Energy efficient buildings.

The urban solar FW power station



The District heating & cooling system